

type are selected for grafting almost all raw areas, and since both can be cut with this machine, it has become indispensable to the reconstruction surgeon. After nearly two years' experience with the Padgett Dermatome, the author is enthusiastic about its merits and urges that its use be adopted widely.

The illustrations are of the apparatus in use and some of the author's cases showing the grafts.  
490 Post Street.

## CLINICAL NOTES AND CASE REPORTS

### CONGENITAL ABSENCE OF THE PECTORALIS MAJOR\*

CLIFFORD V. MASON, M.D.  
*San Leandro*

AND

LOUIS J. RUSCHIN, M.D.  
*San Leandro*

**P**ARTIAL absence of the pectoral muscles is not infrequent.<sup>1</sup> Bing<sup>2</sup> estimated that they comprise 28 per cent of cases of congenital absence of muscles. However, Jones<sup>3</sup> believes this figure is too high, maintaining that many congenital absences are not as easily detected as the pectoral group.

Complete absence of the pectoralis major is rare. The usual lesion is absence of the sterno-costal portion, with or without absence of the pectoralis minor. The well-developed, curved, anterior axillary fold is absent in these patients, and is only slightly compensated by hypertrophy of any remaining muscle strands. (See figure.) Absence of both major and minor have been reported.<sup>3, 4, 5</sup> Only one case of bilateral absence has been reported.<sup>6</sup>

Associated congenital anomalies of the homolateral hemithorax and upper extremity are quite common. Rib and costal cartilage defects,<sup>7</sup> breast defects, (see figure) syndactylism,<sup>1, 8, 9, 10</sup> shortening of the upper extremity,<sup>7</sup> brachydactylism,<sup>7</sup> absence of external abdominal oblique,<sup>10</sup> partial absence of the serratus anterior,<sup>11</sup> latissimus dorsi,<sup>11</sup> and intercostals<sup>11</sup> all have been reported.

Of the several theories advanced as to the etiology of pectoral defects, the most quoted is that of Lewis.<sup>12</sup> He found that in the 9 mm. embryo the pectoral muscle mass is largely above the first rib. In the 11 mm. embryo it extends lower, but it is still undifferentiated into its component parts, and is not attached to the ribs or humerus. In the 16 mm. embryo, the clavicular portion is split off and the remainder then divides into the sternal portion and the pectoralis minor. Perhaps the failure of the primitive mass to attach itself to the ribs and sternum might allow its not becoming differentiated into its normal com-

ponent parts. This coincides with the known fact that the defects are usually in the caudal portion.

#### REPORT OF CASE

This patient is a 24-year old Japanese male, who was seen in the Lung Clinic of the Fairmont Hospital, in San Leandro, because of tuberculosis contact history. He was asymptomatic. Past history and functional inquiry are entirely negative. Family history, according to the patient, reveals no known congenital defects. Physical findings are entirely negative, except for the absence of the caudal portion of the left pectoralis major, and the left mammary gland. No functional impairment is detected clinically. Fluoroscopy and x-ray films reveal a normal bony thoracic cage. Heart and aorta are within normal limits. The lung fields are entirely clear. From the x-ray alone may be gained the impression of a previous left radical mastectomy.

Fairmont Hospital, San Leandro.

#### REFERENCES

1. Brown, J. B., and McDowell, F.: *Surgery*, Vol. 7:599, 1940.
2. Bing, R.: *Virchow's Arch. f. Path. Anat.*, 170:175, 1902.
3. Jones, M. W.: *Brit. Med. Jour.*, 2:59, 1926.
4. Severn, A. G. M.: *Lancet*, 2:560, 1921.
5. Heyde, J. M.: *J. A. M. A.*, 83:121, 1924.
6. Clarke, J.: *Anat. and Phys.*, 49:155, 1915.
7. Loan, H. A.: *Nederl. Tijdschr. v. Gen.*, 1:61, 1912.
8. Kanavel, A. B.: *Arch. Surg.*, 25:1, 282, 1932.
9. Christopher, F.: *J. Bone and Joint Surg.*, 10:350, 1928.
10. Pol: *Virchow's Arch.*, 229:388, 1920.
11. Furst: *Ztschr. f. Morph. u. Anthropol.*, 2:56, 1900.
12. Lewis, W. H.: *Am. J. Anat.*, 1:145, 1901—*Johns Hopkins Bull.*, 12:172, 1901.

### INTRAVENOUS ANESTHESIA: A PRACTICAL METHOD FOR ITS ADMINISTRATION

JOHN H. GIFFORD, M.D.

*Los Angeles*

**M**OST anesthetists have developed a technique of their own for the administration of intravenous anesthesia, so that their hands are partially freed. When intravenous anesthesia first became popular, its administration was considered to be a two-man job; one to administer the anesthetic and the other to support the patient's chin and administer oxygen when necessary. Its administration can be simplified by the intermittent injection of the drug directly into the rubber tube of an intravenous infusion, but the routine use of this method is not justified because of its cost. Several ingenious mechanical devices have been developed to simplify the administration of intravenous anesthetic, but none of these are on the open market.

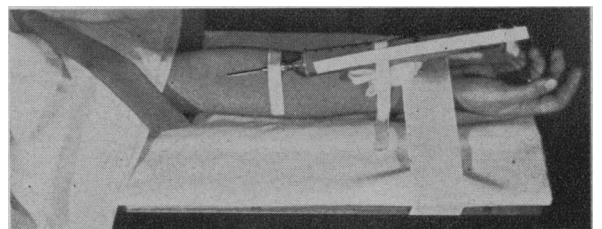


Fig. 1.—Showing application of the method.

(Continued on Page 59)

\* From the Fairmont Hospital, San Leandro.